



The Raleigh Amateur Radio Society's **EXCITER**

GET INVOLVED

- RARS General Membership meeting: Second Tuesday of the month.
- The RARS net meets every night except Saturday @ 8 p.m. on 146.640.
- The RARS Technical & Trader's net: Saturdays @ 8:00 PM on 146.64.
- RARS meets for a monthly dinner on the First Tuesday of each month.



PUBLIC SERVICE EVENTS

Interested in helping? Visit <https://www.rars.org/public-service.php>

frequently for our 2019 ham public service schedule.

RARS General Meeting

Topic: Open Source Design Tools for Amateur

Radio including Ki CAD

By: Dan Marks, KW4TI

Date: September 10, 2019

Time: Meeting at 7:30PM

Informal gathering and refreshments from 7 - 7:30 p.m.

Where: Ridge Road Baptist Church, 2011 Ridge Rd., Raleigh

New HAM meeting, 6:00 p.m. before member meeting

Tadd Torborg, KA2DEW, New Ham Meeting Coordinator

[Click here for more information.](#)

Presidents Comments

By Carl Davis, W8WZ

With the Shelby Hamfest over the Labor Day weekend, summer comes to a close and the seasons of Fall and Winter begin. Fall and Winter are great seasons for ham radio! The summer QRN that plagues the low bands during the hot months of summer decreases and the lower temperatures makes firing up the 3-500Z's a bit more enjoyable in the attic ham shack.

[Continued on page 4](#)

RARS Officers

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The Raleigh Amateur Radio Society

The Raleigh Amateur Radio Society, Inc. (RARS) was founded in 1969 and continues to serve and support the amateur radio community in the greater Triangle area. In 1999, the society incorporated a new RARS and obtained 501(c)(3) non-profit tax status.

The objectives of the club are to promote worldwide friendship through amateur radio; to be of public service by providing radio communications in times of disaster, emergency, or civic needs; to educate members in radio technique, and to provide training classes to assist in obtaining amateur radio licenses.

Anyone interested in amateur radio is eligible to apply for membership. Dues for regular licensed amateurs are \$18 per year (from July 1 through June 30). Additional immediate family members pay \$5 each per year. Dues for licensed amateurs older than 59 or younger than 16 are \$12 per year. Dues for non-licensed associate members are \$9 per year. Applications for membership may be obtained from the treasurer or on the RARS website (www.rars.org).

Exciter

The Exciter is the official newsletter of the Raleigh Amateur Radio Society. It appears each month as a PDF on the RARS website at www.rars.org. Members receive email notification when the latest version is available. Please provide your email address to the Treasurer.

The Exciter welcomes articles, advertisements, and other contributions. To submit a piece to the newsletter, please contact the Editor. The Editor reserves the right to edit any and all pieces. The submission deadline for each month's Exciter is the Saturday that is ten days before the general meeting. All submissions must be final. Drafts are not accepted.

The views expressed in the Exciter are those of the individual authors and do not necessarily reflect the views of the Editor or RARS.

Tom Lewis, N4TL, editor (editor@rars.org)

For Your Information

RARS General Meeting

Date: Second Tuesday of each month

Location: Ridge Road Baptist Church 2011
Ridge Road Raleigh, NC, 27607

Time: People begin arriving at 7 p.m. The
meeting officially begins at 7:30 p.m.

RARS Monthly Dinner

*See the box to the
right for a different
restaurant.*

RARS Repeaters in Raleigh

146.640 and 444.525

Join us for the nightly RARS net at 8 p.m.
on the 146.640 repeater. All hams holding a
Technician class license or higher are invited
to check in. We welcome both RARS and non-
RARS members to the net.

There is a net Listing on the RARS web-
site click here. <https://www.rars.org/nets.php>

VE Testing

The RARS VEs will accept walk-in testing in
February, May, August and November at
5:30PM, prior to RARS membership meetings
at Ridge Road Baptist Church; the RARSfest
in April; the Cary Swapfest in July; the JARS-
Fest in November; and following RARS license
classes. Please bring a photo ID, your origi-
nal and a copy of your current license, your
\$14 exam fee, and any valid CSCEs that prove
passing elements beyond that of your current
license. Visit <https://www.rars.org> for more in-
formation.

July 2019

RARS Net Monthly Summary

Checkins: 546

Traffic Brought/Passed: 7/5

Minutes: 1168

Sessions: 30

Special 10 Meter Net

Checkins: 17

Minutes: 65

Sessions: 1

August 2019

RARS Net Monthly Summary

Checkins: 522

Traffic Brought/Passed: 17/17

Minutes: 1085

Sessions: 32

Virginia Enzor NC4VA

RARS Net Manager

New Restaurant

All members and guests are welcome to the
monthly (first Tuesday) RARS Supper, 6:30PM, at
the IHOP Restaurant, 7471 Six Forks road, 27615.

Its on the corner of Six Forks road and Sawmill
Road, 6:30 PM to 8PM They have a room for us
that is to the left when you enter the restaurant.

Informal and Dutch, just bring your appetite
and best rag to chew.

73, Chuck, K4HF

Presidents Comments continued

If you look on page 20 of the September QST you will see a photograph taken at the March 2019 RARS meeting by N4TL to honor the 50th Anniversary of RARS. The photograph is of RARS Charter Members K4BYN, KD4JH, K4CIA, WA4ZZN, and W4YDY. After 50 years, RARS is still going strong as the largest ham radio club in North Carolina with about 400 members.

Part of our strong RARS activity is our upcoming Fall Technician License Class. As of 31 August, we have 10 students signed up and still have room for 10 more. So, if you know of anyone who would like to become a ham, please direct him or her to https://cs.wcpss.net/index.php?route=llcoursecontroller/course_detail&course_id=1714&cat=0 to register for the class.

For the past few years, we have taught the course over 5 Saturdays with classes that lasted about 4 hours per class. One instructor taught the entire class. As you can imagine, that is quite a commitment for a volunteer instructor to make! Also, we realized that with complicated family and work schedules, many people cannot commit to classes on Saturdays. So we are now going to try a different approach. This Fall we will be teaching our classes on Wednesday evenings for 6 weeks and each class will last 2 hours. Instead of having one teacher for the entire class, a different teacher will cover each topic. We are using the ARRL Licensing Manual as our textbook and teaching from ARRL curriculum. As always, we will offer a VE testing session at the end of the class to get the students licensed. We are teaching this class through the Wake County Public School system's lifelong learning program. This allows us to teach the classes at Sanderson High School in a handicap accessible, professional education space with access to parking and other amenities. It also means that the lifelong learning program promotes our class in their course catalogue and webpage. They also handle all of the logistics of class registration. This change has required us to raise our class fee from \$20 to \$30 and we believe the added value of offering our class in this way is worth that cost. Our instructors are N1FUA, NC4TS, NC4VA, KM4JRH, K4MHM and W8WZ.

Our plan is to teach our Fall classes using this model each year and to offer a Spring class on Saturdays using the model that had been used previously to this one. That way we make ham radio classes accessible to folks who prefer weekend instructions and folks who prefer weekday instruction each year.

Our RARS nominating committee is presently working hard to secure leadership for

Presidents Comments continued

the upcoming year. In addition to all of the one-year term positions that must be filled annually, we need to fill the two year terms of president and secretary this year. If you have any ideas of who would be good folks for RARS leadership please share them with Nominating Committee Chair K4HF. I thank Chuck for again chairing this important team that ensures good leadership for the future of RARS.

73, Carl Davis, W8WZ

RARS Birthdays

Jimmie	KM4DJR	09/02
Jack	K4WFJ	09/02
Dave	KK4BPM	09/02
Andy	KD4FHF	09/04
Ronnie	KN4UFL	09/05
Rickey	KJ4AHN	09/05
Mary Jo	K4MJL	09/05
Lou	K4BYN	09/07
Karen	KA9UJH	09/14
Robert	W4MBD	09/16
Sandy	AC1Y	09/16
Bob	AK4TT	09/17
Bill	K4TF	09/19
Rod	KI4LSN	09/20
Charles	W2WNC	09/20
Sam	KN4RWI	09/22
Justin	AJ4MJ	09/25
David	AB4MB	09/26
Leon	KB4KSA	09/27
Gregory	W4GXS	09/27

New Members

Big T Russell	KN4WJL
Matthew Jones	KN4VTT
John Damelio	KI4KEP
Ben Davis	KN4FRT

*Everyone is
welcome!*



11:30 AM every Thursday a group of Hams get together for Lunch at Taco Bell. The address is 7036 E Hwy 64 Knightdale, 27545. 1.2 miles east of I540.

RARS August Membership Meeting

Presentation about FT8 by Chuck Till, K4RGN

Here is some information from the first few slides in the presentation.

What is FT8?

- Franke-Taylor, 8-FSK modulation
- One in a series of weak-signal digital modes by Joe Taylor K1JT
Physics Professor at Princeton who won the 1993 Nobel Prize
- And by Steve Franke K9AN
EE Professor at Univ of Illinois

What is the objective of FT8?

- “multi-hop Es where signals may be weak and fading, openings may be short, and you want fast completion of reliable, confirmable QSO’s”
- If you are a 6-meter DXer, this is heaven!
- Some of the elements of this objective apply more broadly

What do you need to run FT8?

- A basic SSB transceiver that is frequency-stable
- Computer (Windows, Mac, Linux)
- Accurate time of day, within about a second
- Running WSJT-X or compatible software
- Computer->transceiver and transceiver->computer audio links, with D/A and A/D conversion
- CAT or VOX

Recent history

- Introduced June 29, 2017
- 2.0 in December 2018 (longer payload length)
- 2.1 in July 2019 (Gaussian FSK)
- Quickly became the most-used digital mode
- We’ll be talking about 2.1
- ZL2IFB usage guide at <http://bit.ly/FT8OP>

August Membership Meeting, Door Prize winners



Mike Canada, KN4DRN; Steve Jenkins, W4MGT; Bob Richards, W4GIA;
John Damelio, KI4KEP; Greg Schweizer, WD4GES; Joe Tyson Jr., KM4WRQ;
Ken Latchum, AD4GX; and David Hertzberg, KN4CUZ

Please let the Exciter editor know if there are any errors in the above list of names.

Future RARS Meeting Topics

Titles, topics, and speakers subject to change.

9/10/2019	Open Source Design Tools for Amateur Radio including Ki CAD	Dan Marks, KW4TI
10/8/2019	RARS Officers nominations RARS Auction	Election committee & Carl, W8WZ
11/12/2019	RARS Officers election and Show and Tell. Bring something of interest in Ham Radio that you would like to show off. Be prepared to talk about it. The time will be limited so everyone can have time to show their item.	Election committee & members
12/10/2019	RARS pot luck Holiday party. Sign up at the RARS website. RARS Officers induction.	Election committee

*New HAM meeting, 6:00 p.m. before the
member meeting*

Tadd Torborg, KA2DEW, New Ham meeting Coordinator

*The New Hams meeting is held every month before the regular RARS meeting.
We'll try to start by 6pm. We try to address topics in a manner that will be of help
to hams in their first year of operation.*

There were fifteen attendees at the August 13th New Ham meeting. Doug Wall, N3LTV, presented how to build an inexpensive 433.3 six element Yagi. The basis of the presentation can be found on the tarpn net website. Click tarpn.net and (after the page opens), click [builders](#), then click [Antennas](#)

WA5VJB Cheap Yagi

Building your own Yagi isn't all that hard. The big disadvantage of this antenna over the commercial variants is weather worthiness, and maybe hassle-factor. But if you are doing an indoor antenna, this Yagi has the advantage that you can cut it for the frequency you want. Commercial UHF ham Yagis are available for 430 to 435mhz, and for 440 to 450. Nothing serves the 420 to 430 range and we can get radios to run there. So building one's own antenna is possibly the way to go.

[cheap yagi antennas for 2m, 220, 440.](#)

See also [WA5VJB CheapYagi PDF](#) for another article on the same antenna.

Based on WA5VJB's design, N3LTV and I worked out a spreadsheet (Excel 2009 or later) to modify the numbers so we could pick a 420-450 center frequency for the antenna. [Download the spreadsheet from here.](#)

73 Doug, N3LTV

The next new-ham meeting will talk about FM and repeaters. All hams are invited to bring handie talkies if they have one. We'll be talking about repeaters, simplex, local repeaters, and some technical aspects.

73 Tadd, KA2DEW

The Occoneechee Amateur Radio Society (OARS)

Amateur Radio is important to me and also to those whom it serves. Looking back at events in recent history, Puerto Rico comes to mind. When the devastation hit and the infrastructure of the country collapsed, amateur radio was their only means of communications not just internally on the island, but externally to the rest of the world to get help, support and assistance to provide the means to get back on their feet and somewhat return to normalcy.

We, the Amateur Radio Club of Occoneechee Council, agree in principle that service to others is the forefront of Scouting and just the right thing to do. Helping is at our core and the heart of Scouting worldwide. Preparing to help in the event of a disaster may seem to be strange to some, but everyone understands muscle memory. The more you practice, the better you become and the more the process becomes second nature.

The Occoneechee Amateur Radio Society is comprised of licensed amateur radio operators in the council. OARS is not limiting, if you are not licensed and would like to join you may as an associate member, but the intent is for the associate member to work on becoming licensed.

The club, in association with other local amateur radio clubs, hold several Radio merit badges during the year in many locations around the council, in many of the districts. Also, the club holds a technician licensing class twice a year, giving Scouts and Scouters the opportunity to become a licensed amateur operator and an active member of the club and their community.

Club members have been certified by the FCC through the Laurel VEC, a volunteer testing group approved by the FCC. The exam is offered 4 times a year, once after each licensing class and two other test sessions at other times.

For more information on becoming licensed, or to register as a member of OARS, please go to W4CEC.com

There you will find a lot of information you can use to explore amateur radio as a hobby and help when something happens anywhere in the world.

Chris Cancilla, W4CEC
President
Occoneechee Amateur Radio Society (OARS)

Thanks to Murray Merner, K4MHM, for forwarding this to the Exciter.

Become an Amateur Radio Operator



The Raleigh Amateur Radio Society is offering Technician Level

Amateur Radio Licensing Classes

at Sanderson High School - 5500 Dixon Dry, Raleigh, NC 27609

Class Schedule:

Week 1 - Wednesday, 2 October 2019 7:00 PM to 9:00 PM

Pre-Class Reading: Chapters 1 & 2 of The ARRL Ham Radio License Manual

Week 2 - Wednesday, 9 October 2019 7:00 PM to 9:00 PM

Pre-Class Reading: Chapters 3 & 4 of The ARRL Ham Radio License Manual

Week 3 - Wednesday, 16 October 2019 7:00 PM to 9:00 PM

Pre-Class Reading: Chapters 5 & 6 of The ARRL Ham Radio License Manual

Week 4 - Wednesday, 23 October 2019 7:00 PM to 9:00 PM

Pre-Class Reading Chapters 7 & 8 of The ARRL Ham Radio License Manual

Week 5 - Wednesday, 30 October 2019 7:00 PM to 9:00 PM

Pre-Class Reading Chapter 9 of The ARRL Ham Radio License Manual

Week 6 - Wednesday, 6 November 2019 7:00 PM to 9:00 PM

Test Day. Amateur Radio Licensing Tests Administered

Testing fee of \$14 due in cash or check at time of test. Students must bring photo ID, and have an FRN or Social Security Number and bring a black ink pen and #2 pencil. Students may bring a calculator that does not have a memory (or has the memory cleared by a test administrator). The use of smart phones or tablets as calculators is not allowed.

Capacity is limited to 20 students and registration is required. Due to limited seating no walk-ins will be accepted. Students must come with the textbook **ARRL Ham Radio License Manual, 4th edition**, ISBN: 978-1-62595-087-1 which can be purchased at this link: <http://www.arrl.org/ham-radio-license-manual>

To register for the class please visit: https://cs.wcpss.net/index.php?route=llcoursecontroller/course_detail&course_id=1714&cat=0

The non-refundable cost for the course is \$30 payable in cash or check made payable to RARS at the first session. For students over age 18 there is an additional fee of \$14 for the license test payable on the day of the exam.

To ask questions or register for the class please e-mail RARS Education Director Carl Davis at w8wz@aol.com



<https://www.rars.org>

Future Hamfests

A full list of Hamfests can be found at the
[ARRL website.](#)

09/20/2019 | [W4DXCC SEDCO](#)

Location: Pigeon Forge, TN
Type: DX and Contest Convention
Sponsor: SEDCO
Website: <http://w4dxcc.com/>

09/21/2019 [Qorvo Amateur Radio Club](#)

Location: Qorvo Headquarters, back lot. 7628 Thorndike Rd. Greensboro. NC 27409
Type: Free Tailgate Swapfest
Sponsor: Qorvo Amateur radio club
This is not a rain or shine event.

10/12/2019 | [W4NC Fall-Fest](#)

Location: Winston-Salem, NC
Type: ARRL Hamfest
Sponsor: Forsyth Amateur Radio Club
Website: <http://W4NC.com>

10/13/2019 | Maysville Hamfest

Maysville Community Building, 1 block west of Intersection of US 17 and NC 58 (Jones County) Contact: Janice Hopkins, KJ4JPE
Talk-in 146.685 Grifton Repeater 88.5 tone

11/17/2019 | [JARSFEST](#)

Location: Benson, NC
Type: ARRL Hamfest
Sponsor: Johnston Amateur Radio Association
Website: <http://jars.net>

Interesting websites

2019 Shelby Hamfest pictures taken by Nick England, K4KYW.

http://www.virhistory.com/ham/shelby_2019.htm

The Heathkit Legacy article that appeared in the Monitoring Times.

<https://people.ohio.edu/postr/bapix/HLegacy.htm>

FCC changed the license classes in 1951

In 1951 the FCC totally revamped the license classes for radio amateurs. Prior to 1951 three classes existed, A, B, and C. In 1951 the FCC changed the licensing structure into six classes: Novice Class (a new introductory class), Technician Class (a new class for VHF and UHF advancement), Conditional Class (for people unable to be tested in front of an FCC examiner - formerly class C), General Class (formerly class B), Advanced Class (formerly class A - but no new advanced class licenses were granted after December 31, 1952 until the introduction of incentive licensing in 1968), and the Amateur Extra Class (the new top-level class.) Read all about it at this website.

http://www.w6ze.org/Heathkit/Heathkit_079_VF1.pdf

Too big antenna project. Some contesters or DXers would say that is impossible.

When you look at the pictures make sure you look at the last two.

<http://w6dsr.com/LP1005AA/index.html>

The AWA museum in Bloomfield, NY was the subject of an article in the Owl Light News.

<https://www.owllightnews.com/owl-light-outings-a-wireless-museum-and-a-wine-tasting-too/>

<https://www.rars.org>

THE GHOSTS OF LICENSEES PAST

Ham Lore by Howard A. Goodman, N4KYW

Back in 1958 when I entered ham radio via the Novice Class, the FCC had this practice, which required that a Novice Class call sign had to include the letter, 'N,' as the second letter in the call sign prefix. A sort of Scarlet Letter, if you will. So for my first three or four months, as an entry-level ham I was known to my fellow amateurs on 80, 40, and 15 meters as KN3EPN. This sequentially issued call sign was brand new and had never graced the shack of another ham.

Six months later, after I passed the test for Technician Class I received another license from the FCC. Same call sign but minus the N in the prefix. My call sign now looked just like everyone else's on VHF/UHF. But down on HF, since I was still a Novice I had to continue using the N.

Three months after earning my Technician license I sat for the General exam at the FCC office located in the Post Office Building at 9th and Market Streets in downtown Philadelphia. Since my General Class license trumped both my Novice and Technician licenses, I was now free to operate wherever permitted within the ham radio spectrum as K3EPN.

That was then. These days, here in 4-Land the FCC has just about exhausted sequential call signs that begin with 'KN.' But the N in the prefix no longer indicates that the person granted the call sign is a Novice. In fact, the FCC ceased to issue new Novice Class licenses as of April 15th, 2000.

So, for you hams with a prefix of WN4... or KN4... the fact that your call sign was issued sequentially may create the impression that it is brand new. However, more likely than not it has seen the shack of a previous licensee.

Public Service

There are Public Service Events that you can help with each month.

Click on this link and you can see what ones are coming up.

www.rars.org/public-service.php

ARRL Public Service News.

<http://www.arrl.org/public-service>

2019 Bike MS: Historic New Bern Ride

September 7-8, 2019 - Saturday and Sunday - New Bern, NC

The event features 30, 50, 75 and 100 mile rides each day, requiring SAGS, staff Shadows and Rest Stop Hams. The event benefits the National Multiple Sclerosis (MS) Society and typically draws about 2000 riders.

This year's ride is especially important to support, as New Bern is rebuilding following the hurricane. If you're interested in helping, please sign up early.

* Location: TBD, typically Union Point Park, 210 E Front St, New Bern, NC 28560

* Ham Coordinator: Brian Young (KA9QJT) for Triangle-area Hams, collaborating w/Bruce (KS8L) of New Bern

* Website: Bike MS New Bern Sign Up Genius page will be available later

* Facebook (Optional): [Bike MS Ham Radio Support group](#)

* Do consider making hotel arrangements now and expand your search to nearby cities.

* TO VOLUNTEER, CLICK THE BUTTON BELOW

TO VOLUNTEER, FILL OUT THE FORM AT www.rars.org/public-service.php

RARS Classifieds

Copied from <https://www.rars.org/classifieds.php>

The items below were listed within the last 30 days on the RARS website.

HELP WITH ANTENNAS/TOWER

Posted August 29th, 2019 by: K8SL

Contact: rolf@anderssons.us

I am Looking for somebody who can climb my 80' Rohn 45 tower. The coax feeding the antennas has got stuck at the top of the tower and I can only rotate the antennas about 60 deg's west.

Thanks and 73s

Rolf K8SL

Ham Radio Items

Posted August 20th, 2019 by: K4HF

Contact: k4hf@arrl.net

Daiwa 2M/440 MHz Model CN465M SWR/Power Meter with 15 and 75 Watt scales. Excellent Condition \$25.

Yaesu Model FC-30 HF 100W Autotuner. Matches Yaesu Models 857/897 family of Radios.

Needs matching cable/hardware for installation.

Very good condition; asking \$60.

Contact me by e mail, preferred, or (919) 872-6555. Thanks - Chuck

TYT TH-9000D 220-260MHz 50 Watt Mobile Transceiver

Posted August 11th, 2019 by: KN4AAG

Contact: kevin.estep@gmail.com

Working 1.25m mobile radio for sale with mic, mobile bracket, and power cable. Microphone has new crimped RJ45 connector.

Asking \$60.00.

Email, text, or call 919-302-9063

Kevin KN4AAG

<https://www.rars.org>

Minutes

Raleigh Amateur Radio Society

Members Meeting

August 13, 2019.

The monthly membership meeting of the Raleigh Amateur Radio Society met at the Ridge Road Baptist Church in Raleigh. President Carl Davis (W8WZ) called the meeting to order, at 7:30 pm.

The pledge of Allegiance was recited

Approval of Minutes. A quorum was present and the minutes were approved.

Special Notice. The location of the RARS dinner has been changed. It will no longer be held at the Golden Corral. We will now meet at the IHOP at Celebration, Six Forks, located at the corner of Six Forks Rd. and Sawmill Rd. The address is, 7471 Six Forks Rd.

The next board meeting, which is open to all our members, will be Tuesday September 17th at 7pm in the church conference room. All members are invited.

Tonight's after-meeting gathering, for any who are interested, will be at the Rudinos at 3101 Edwards Mill Rd, Raleigh.

A new ham/Elmer's meeting with new hams, and anyone interested, takes place before each membership meeting at 6pm at the Ridge Road church and presented by Tadd (KA2DEW)

List of the Door Prize winners.

Mike Canada, KN4DRN; Steve Jenkins, W4MGT; Bob Richards, W4GIA;
Andy Anderson, AA0WX; Greg Schweizer, WD4GES; Joe Tyson Jr., KM4WRQ;
Ken Latchum, AD4GX; and David Hertzberg, KN4CUZ

Officer and Committee Reports:
None.

Minutes continued from the previous page

Treasurer's Report: Presented by Carl Davis.

Education Director: Everything is in place for the on-line registration. The Wake Co. School System has approved all of the background checks for instructors. Am ARRL VE exam will be given the night of the last class.

Carl Davis announced out guest speaker Chuck Till K4RGN who presented an exceptional explanation of the inner workings of FT-8.

Meeting was adjourned.

Minutes taken by Mark Kilmer, KM4JRH.

Minutes

Raleigh Amateur Radio Society

Board Members Meeting

Will be published in a future issue of the Exciter.

2019 AWA Convention near Rochester NY

Your Exciter editor attended the annual Antique Wireless Association Convention August 14, 2019 to the 17th. It is held yearly near Rochester NY. Many presentations were given all about vintage radio and vintage communications. There also is a flea market, old books, a vintage radio contest and an auction. Here is a link to the AWA website,

<http://www.antiquewireless.org/2019-annual-convention.html>

The AWA Museum was open extra hours for convention attendees.

<http://www.antiquewireless.org/museum-hours.html>

Here is some information from a few of the presentations.

1. First Audio Tubes 205 and 212D, by Joe Knight

Here are some of my notes from that presentation. Hopefully I don't have any mistakes. Here is a list of a few tubes to show the dates they were introduced.

1908 - The first vacuum tube for radio, the DeForest Autron. Used as a detector.

1912 – Triode used as an amplifier or a detector.

1914 – Type A telephone amplifier tube.

1915 – Western electric Type K, 5 watts

1916 – Type 212, 500 watts and almost 14 inches high. You can find vintage ones on eBay today for over \$1,000 each.

<https://www.ebay.com/itm/Western-Electric-212E-Vacuum-Tube-Good-Filaments/283390298156?hash=item41fb60c82c:g:awsAAOSwKA5bwiOs>

2019 AWA Convention near Rochester NY, continued

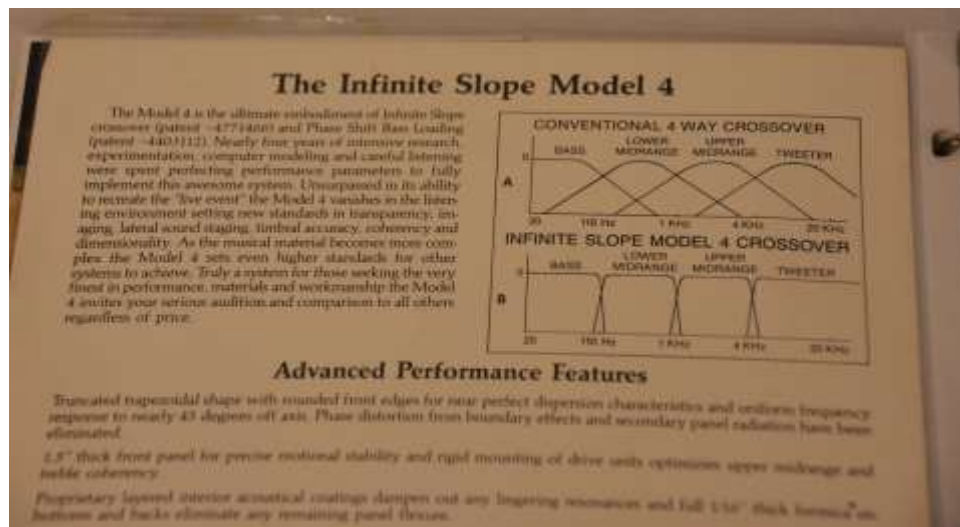


1916, Type 212,
500 watts
almost 14 inches high.

2019 AWA Convention near Rochester NY, continued

2. Demonstration of New Speaker Technology by Richard Modafferi

Richard invented the Infinite Slope Crossover and holds the patent for it. The [Joseph Audio Pearl Reference speakers](#) use it. He completed the 4th generation of the design and has applied for a patent for it in July 2019.



Infinite Slope Model 4 crossover



McIntosh MAC7200 Receiver

2019 AWA Convention near Rochester NY, continued



The speaker on the left is a JosephAudio Pearl Reference speaker. The name plate is shown below. The speaker next to it is the prototype for the new 4th generation crossover.

Richard Modafferi said he removed the crossover in the

JosephAudio speaker and put his new version in it. He had two of them and gave a demonstration. He used the McIntosh receiver shown on the previous page to drive them. They sound great.



3. Reel To Reel audio recordings

If you listen to recordings of old radio programs, once in a while you will hear the announcer say “By Transcription”. This means that the program was recorded on a record. The records were 16 inch special for the broadcast industry. There were also wire recorders but they were not used on the air that I know of. In the 1940s Bing Crosby invested in the development of reel to reel tape recorders. He did so because he had to do his radio shows twice. Once for the east coast and again for the west coast. He wanted to tape the first one so it could be used for the west coast broadcast. I don’t know why a record recorder was not used for his show. Apex made a lot of the tape recording and playback machines used in the broadcast industry. One of the later high end reel to reel tape recorders was the technics RS-1700. You can still buy them on ebay for many thousands of dollars.

https://www.ebay.com/sch/i.html?_nkw=technics%20rs%201700

Tom, N4TL, at the AWA Museum in Bloomfield, NY. Near Rochester, NY.

The radio is a 1935 Zenith 1000-Z Stratosphere.

The seventh edition of the Antique Radios Collectors guide by John Slusser, lists its value at \$30,000 plus.

This one was donated to the AWA Museum by some one in Europe.



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